Seeking Performance in Long-Term Care Organizations

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Abstract. The provision of high quality long-term care (LTC) for the elderly is an important but challenging goal for LTC national systems and LTC providers. Yet, considering the multidimensionality of the concept of quality, the vulnerability of many LTC recipients, the inevitable scarcity of resources (due also to the tightening of public health spending) and the importance of informal care, LTC quality assurance is a complex task. This study analyzes quality assurance indicators used at national level or recommended at local level in selected EU countries for monitoring the service of LTC providers. This analysis has the goal to assess the link between LTC system organization and LTC monitoring of performance measures of LTC providers in the following EU countries: Estonia, France, Germany, Hungary, Italy, Latvia, Slovakia, Slovenia, Spain, Sweden, The Netherlands, and the UK.

Keywords. Long-term care, quality indicators, European Union

Introduction

Assuring a high quality long-term care (LTC) for the elderly is a top priority for LTC national systems and LTC providers. According to a recent OECD report [1] LTC and quality of LTC are increasingly important because of four main trends: (i) firstly, the constant aging of European population is provoking a higher demand for LTC services. Assuring quality for all will be therefore increasingly requested; (ii) secondly, due to societal changes (fragmentation of families, increase of female workforce) families are no longer able to sustain alone all the burden of LTC. LTC organizations are therefore increasingly diffusing in European countries, making important to monitor their quality of service; (iii) thirdly, wealthier societies demand for better services. Quality levels need to increase: (iv) eventually, technological changes permit to increase home care, thus making a reform of the organization of LTC necessary and urgent.

All these trends are provoking an increase of the demand for resources to provide LTC services. As the tightening of public health budgets imposes a redefinition of the organization of LTC systems, questioning LTC performances becomes a priority.

However, monitoring and assuring quality of LTC is a highly complex task to achieve. Being LTC quality a multidimensional concept encompassing several quality variables [2] [3] it is difficult to measure. Secondly, LTC older users, differently from acute services users, are affected by multiple chronic diseases requiring coordination

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among different competencies, technologies, and responsibilities. This makes LTC quality difficult to standardize.

This paper has the aim to understand what types of measures of quality of LTC are used across European countries in order to monitor LTC organizations, and to what extent these quality indicators are coherent with national LTC policies about the organization of LTC system and its funding. The results may be used as an input for policy reforms about the quality monitoring systems for LTC organizations.

In the second half of 2010, we collected 390 performance indicators of the quality of service of LTC providers required by national monitoring systems in eleven EU countries: Estonia, France, Germany, Hungary, Italy, Latvia, Slovakia, Slovenia, Spain, Sweden, The Netherlands, and the UK.

Results are derived from the ANCIEN project, a European research project funded under the 7th Framework Programme by the European Comm xission.

1. Quality of Long-Term Care

According to the World Health Organization [4], the goal of LTC is "*to ensure that an individual who is not fully capable of long-term self-care can maintain the best possible quality of life, with the greatest possible degree of independence, autonomy, participation, personal fulfillment and human dignity*".

Unlike acute care, LTC does not eliminate diseases but aims at alleviating suffering, reducing discomfort, improving the limitations caused by disease and disability, and maintaining the best possible levels of physical and mental functioning.

These aims encompass a broad mix of services, such as personal care, health care and life management (e.g. shopping, medication management and transportation). They also span a wide range of resources, such as assistive devices (e.g. canes and walkers), more advanced technologies (e.g. emergency alert systems and computerised medication reminders) and home modifications (e.g. ramps and hand rails). As for the settings, LTC may be either institutional or home-based, and formal or informal. Institutional LTC corresponds to nursing homes or residential care, which may include health care, social care, and personal care services. Institutional care is inherently formal, since there should be a formal agreement between the patient and the organization. Home-based care, instead, may be formal or informal. The latter is the case of a service provided by family members or other types o informal caregivers.

Again unlike the acute sector, many LTC professionals are not specialized and are relatively unskilled. The sector is highly labor-intensive. Most LTC activities are performed by paraprofessionals with a variety of skills (home assistants, housekeepers, nurse assistants, activities staff or informal caregivers). Skilled workers (nurses, physicians, etc.) are involved to a lesser degree than in acute care. Medical devices are also significantly less complex and costly than those used for acute care. Many of the core LTC activities concern help with basic functioning or improving patient autonomy in performing basic or instrumental activities of daily living.

Any approach to assessing the quality of LTC needs to recognize all these differences from acute care, and the following in particular [5]:

- LTC is both a health and a social issue. For the health service components of LTC, the measure of the quality of care may emphasize the medical and

technical aspects of care. For other aspects, opinions and satisfaction of the patient must be taken into account.

- The potential and actual role of consumers is an essential element in long-term care. Thus the desired health outcomes depend on the patient's perspective and activation.
- For institutional care, the physical environment of the facility needs to be assessed since has an impact on the quality of life of residents.
- The chronic conditions of the patients require a greater need for coordination among different types of caregivers.

Reviews of the most quoted definitions of quality of care [6] and of the most used quality indicators [7] reveal that the most common dimensions applicable to quality of LTC are the following:

- *Effectiveness*, a concept encompassing *effectiveness of care* (extent to which interventions produce intended outcomes), *appropriateness* (extent to which provided healthcare corresponds to the clinical needs), *competence* of personnel (professionalism of staff).
- *Safety of patients and providers* (extent to which care processes avoid, prevent, and ameliorate adverse outcomes or injuries that stem from the process of care itself).
- *Patient value responsiveness*. Responsiveness measures to what extent a care system meets patient's legitimate non-health expectations This variable includes concepts such as *satisfaction* and *acceptability* (how humanely and considerately the treatment is delivered).
- *Coordination*. Quality of care implies the coordination between providers and between policy makers. Coordination can be defined as the combination of the following organizational issues: *timeliness* (people can get care when needed), *coordination of care* (once under care, the system facilitates moving people across providers and through the stages of care), *continuity* (the extent to which care for specified users, over time, is coordinated across providers and institutions), and *integration* (between primary and secondary care, and between healthcare and social care).

Another approach to classify quality indicators derives from adopting a system view of quality. According to [8] who firstly applied the systemic approach to healthcare quality, quality of care includes:

- the quality of the *inputs*, or structure (equipment, drugs, facilities, personnel, etc.);
- the quality of the *processes* or the use of resources (intervention rates, referral rates, management of waiting lists, etc.);
- and the quality of *outcomes*, that is the effects of healthcare on the health status of patients and populations (mortality, disability or quality of life, functional ability, etc.), depending on the types of patients.

[9] these categories with the dimensions of quality of care: i) input measures deal with the dimensions of access and equity; ii) process measures are related to efficiency, safety, appropriateness, and continuity; iii) outcome measures are mainly concerned with effectiveness. As they argue, "*it is not realistic to expect to concentrate on all of these values at the same time. Each country should define the strategic totality of*

values in quality (preferably in terms that could survive a change of government), and then define the operational priorities".

The focus on the quality of inputs has been the major approach used in drawing specifications for assessment, certification or accreditation by official and voluntary agencies. The assumption is that when certain specified conditions are satisfied, good care is likely to follow. The focus on processes implies that quality activities have an impact on the actual outcomes. Outcomes are the final results of care; that is, patient's health conditions and satisfaction.

Historically [10] the main focus of quality assurance agencies has been put on inputs and processes, because the assessments of quality indicators about them are easier to collect.

Outcome-Based Quality Indicators (OBQI) approaches to quality assurance, which foster the collection and dissemination of standardized measures of health and functional status, actually have several shortcomings: difficulty in consistently finding reliability and validity of Quality Indicators (QIs) in practice settings, the validity of QIs as indicators of quality [11].

When outcomes occur with a lag-time after health care interventions, or when other determinants may influence their occurrence, the attribution of specific achievements to specific care processes remains difficult. For example, outcome-based indicators such as percentage of incontinent or depressed residents may be interpreted as a proxy of quality of care or just of a case-mix indicator. Some health outcomes may not be causally related to internal organizational processes. Assessing quality on these outcomes may provoke cream skimming practices for the selection of residents. Also, since LTC patients tend to present a combination of problems, isolated outcomes concerning specific conditions may not provide a complete picture of the impact of care.

[12] reports that the most diffused OBQI are the 'activities of daily living' (ADLs) and 'instrumental activities of daily living' (IADLs), which measure the functional level and variations in functional capacity. Other outcomes of interest in LTC are the level of pain and discomfort, the level of cognition, as well as social activity, and social relationships.

Another way to assess outcomes is to compare the observed and predicted outcomes, adjusted prior to the intervention. Such adjustments are made according to the patient's features (case-mix) that may affect the occurrence of those outcomes. Otherwise, comparisons are not meaningful. Patients may be classified as high risk or low risk according to different criteria. The Resource Utilisation Groups (RUG) is one of the most diffused case-mix measurements for LTC.

Given the difficulty in gathering and interpreting outcome-based data, many advocate the use of self-reported data, in addition to other data, gathered from the patients themselves about the quality of their experience with the caregivers and about the quality of their life during the care process.

2. Long-Term Care Systems in Europe

As it may be expected, there is a wide variety of policy measures across European countries (and within countries in some cases). Comparing quality assurance policies among EU member states is difficult for several reasons [10]:
- Member states use a variety of definitions of LTC that do not always concur.

- There are different levels of organization and varying divisions of responsibility between the public sector, the private sector and the family.
- There are assorted interventions to address the elderly and their families that may be related to LTC systems: prevention measures, active ageing, autonomy promotion and empowerment, social assistance, family support, etc.

An analysis of the context for quality assurance policies is therefore key to understanding them across countries. The context was analyzed in the ANCIEN project, an FP7 project funded by the European Commission [13]. Authors identified four clusters of countries according to the form of LTC used and financing systems (Table 1), and four clusters according to the organization of LTC and public spending on it (Table 2).

In table 2, *organizational depth* includes variables such as: means-tested access to publicly financed Formal Institutional Care/Formal Home Based Care; presence of an entitlement that applies to Formal Institutional Care/Formal Home Based Care/Formal Home Nursing Care; availability of cash benefits; free choice of providers; quality assurance in Formal Institutional Care/Formal Home Based Care/Formal Home Nursing Car mandatory; quality of coordination between LTC and other services (rather good, rather poor, very poor). *Financial generosity* includes cost sharing in Formal Institutional Care/Formal Home Based Care/Formal Home Nursing Care and public expenditures [14].

Table 1. Country clusters based on LTC use and financing

Cluster	LTC use and financing
Cluster 1: Belgium, Czech Republic, Germany, Slovakia	Oriented towards informal care, a low level of private financing (low spending, low private funding, high IC use, high IC support, modest cash benefits)
Cluster 2: Denmark, The Netherlands, Sweden	Generous, accessible and formalized (high level of spending, low private funding, low IC use, high IC support, modest cash benefits)
Cluster 3: Austria, Finland, France, Spain, the UK	Oriented towards informal care, high level of private financing (medium spending, high private funding, high IC use, high IC support, high cash benefits)
Cluster 4: Hungary, Italy	High private financing, informal care seems a necessity (low level of spending, high private funding, high IC use, low IC support, medium cash benefits)

Note: IC refers to informal care. Source: [14]

Table 2. Country clusters based on LTC organizational depth and financial generosity

Cluster	Organizational depth and financial generosity
Cluster 1: Belgium, Denmark, France, Germany, The Netherlands, Sweden (corresponds to cluster 2 based on LTC use)	Profound organizational depth, high level of financial generosity
Cluster 2: Austria, Finland, Italy, Latvia, Slovenia, Spain, UK (corresponds to cluster 3 based on LTC use)	Medium organizational depth, medium level of financial generosity
Cluster 3: Bulgaria, Estonia, Czech Republic, Slovakia (corresponds partly to cluster 1 based on LTC use)	Profound organizational depth, low level of financial generosity

Cluster 4: Hungary, Lithuania, Poland, Romania (corresponds in part to cluster 4 based on LTC use)	Shallow organizational depth, low level of financial generosity

This framework will be used to understand if different types of LTC systems have coherent LTC quality policies.

3. Methodology

We defined quality as a multidimensional concept encompassing effectiveness of care, patient safety, responsiveness (or patient-centeredness) and the coordination of providers.

In the ANCIEN project each partner collected in its own country the quality indicators that are used at a national level, or which are recommended to be used at a regional level, in order to monitor quality of LTC providers. Data were collected from July 2010 to February 2011.

We classified indicators according to three dimensions: organization types, quality dimensions, system dimensions, and asked partners to validate this classifications.

Organization types include:

- *Formal Institutional Care* (FIC). This includes Nursing Homes, that is LTC institutions providing nursing and personal care to persons with ADL restrictions, and Residential Care, which provide services of care and social support in supported living arrangements.
- *Formal Home Nursing Care* (FHNC): health-related care at home through nursing services
- *Formal Home Based Care* (FHBC): care provided in the home related to daily functioning, such as personal care (eating, bathing) or homemaking (WHO, 2002).
- *Informal Home Care* (IHC): care provided at home for free by family members, friends, neighbors, volunteers.

Quality Dimensions include *effectiveness of care, patient safety, responsiveness* (or patient-centeredness) and the *coordination* of providers.

System Dimensions include quality indicators to assess the quality of *inputs, processes,* and *outcomes*.

The countries that provided quality indicators, which are used at a national level or recommended to be used at a local level by a national authority, are: Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Netherlands, Spain, Sweden, United Kingdom.

Each quality indicator has been assigned to one or more options in each dimension. For example, in Sweden the indicator "satisfied with support after a stroke" is applied to several organizational types (FIC, FHNC, FHBC); the indicator "experienced professionalism and safety of care", used in The Netherlands, is related to both effectiveness and safety; all system indicators, but one, have been assigned to just one system dimension (input, process, or outcome). Only one indicator is so generic (Business premises, management and planning", used in the UK) that had to be assigned to both input and process categories.

4. Results

Table 3 summaries the results about quality indicators across countries. Not surprisingly, most indicators are used to assess quality of Formal Institutional Care. Informal care quality, at the opposite, is almost never assessed (just the UK and Spain take into account indicators about quality of informal care).

Table 3. Quality indicators by country and by dimensions

	FIC	FHBC	FHNC	IHC	Effectiveness	Safety	Responsiveness	Coordination	INPUT	PROCESS	OUTCOME	# indicators
Estonia	13	1	10	0	5	8	3	3	4	8	2	14
France*	27	46	46	0	15	15	27	28	9	64	0	73
Germany	54	50	0	0	35	23	16	23	11	52	5	68
Hungary	3	1	1	0	2	1	0	0	3	0	0	3
Italy	15	8	8	0	16	0	0	3	9	10	0	19
Latvia	32	9	7	0	31	4	8	6	20	24	0	44
Slovakia	17	1	0	0	15	2	1	0	0	0	18	18
Spain	20	1	1	1	11	5	3	2	6	11	3	20
Sweden	25	25	23	0	15	2	12	4	2	16	15	33
The Netherlands	31	23	23	0	8	11	12	5	3	12	20	35
UK	44	33	23	6	29	7	17	14	9	50	5	64
Total	**281**	**198**	**142**	**7**	**182**	**78**	**99**	**88**	**76**	**247**	**68**	**390**
countries	**11**	**11**	**9**	**2**	**11**	**10**	**9**	**9**	**10**	**9**	**7**	

However, there are big differences in the number of indicators used for monitoring organization types across different countries. Relatively new EU countries, like Slovakia and Hungary, and countries in the South of Europe seem to use fewer types of quality indicators across all organization types.

France, Sweden, UK, and The Netherlands have a balanced distribution of indicators across formal organization types. However, indicators in France refer to voluntary quality certifications. These were included in the analyzes because of their wide diffusion in this Country.

As regards the quality dimensions, we can see that most of the indicators across the countries are focused on effectiveness. Quite surprisingly, the most neglected dimension is safety. Most of the countries invest on all the quality dimensions, except Italy, Slovakia, and Hungary.

As regards the system dimensions, process indicators dominate over the others. This is not surprising because process indicators are quite simple to be identified and collected. Also, not surprisingly, outcome indicators are scarce in most countries, with the notable exceptions of The Netherlands, Slovakia, and Sweden. Also the UK, Germany, Spain, and Estonia present a balanced distribution across system dimensions.
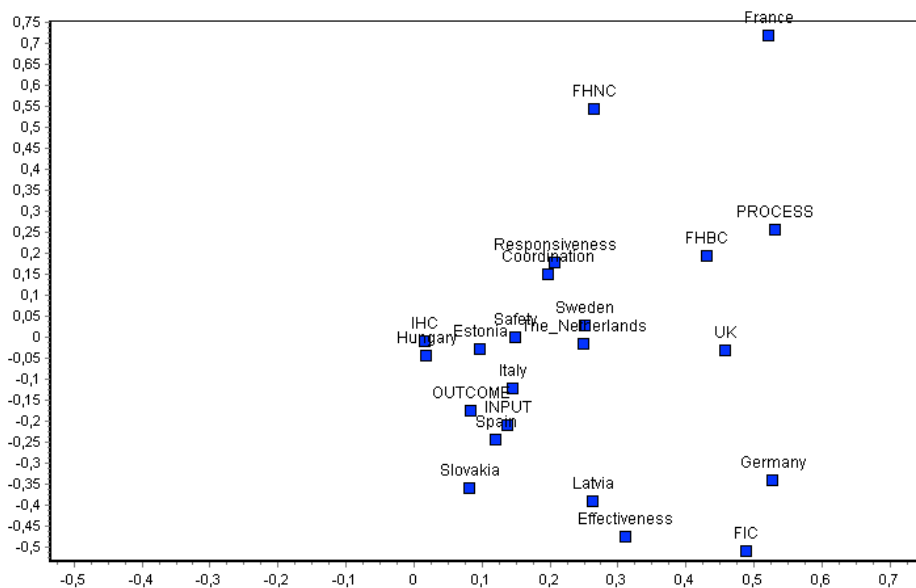

Figure 1. Correspondence analysis. Factors 1 (x) and 2 (y)

Figure 1 shows factors 1 (x) and 2 (y) resulting from a Singular Value Decomposition performed through the software UCINET [15]. Two countries are close to each other if they have similar profiles across all variables, based on their eigenvalues. Factor 1 is characterized by FIC, FHBC, effectiveness and process indicators. Factor 2, instead, is characterized by formal home care (FHBC, FHNC) and responsiveness / process indicators. In short, factor 1 may be interpreted as formal care based on effectiveness while factor 2 is representative of formal home care based on responsiveness.

Figure 2 shows factors 2 (x) and 3 (y). All together, the three factors explain 79.5 % of the variance. Factor 3 is characterized by outcome indicators in FHNC and FHBC. Factor 3 is therefore to be interpreted as formal home care based on outcomes (impact on health conditions and or on satisfaction).

Countries mainly described by factor 1 are Germany and the UK. These countries are characterized by a high and medium organizational depth and a high and medium public spending on LTC (table 2). Effectiveness-based formal care indicators are quite coherently used to govern the LTC system. Also, in these countries there is a high use of informal LTC. Coherently in the UK we find indicators for informal care quality.

France is the only country mainly characterized by factor 2. In this case, organsational depth (provision of services) and public generosity are put into practice through FHNC, FHBC. Latvia and Spain are also characterized by factor 2, but in a negative way: they significantly lack the features of factor 2.
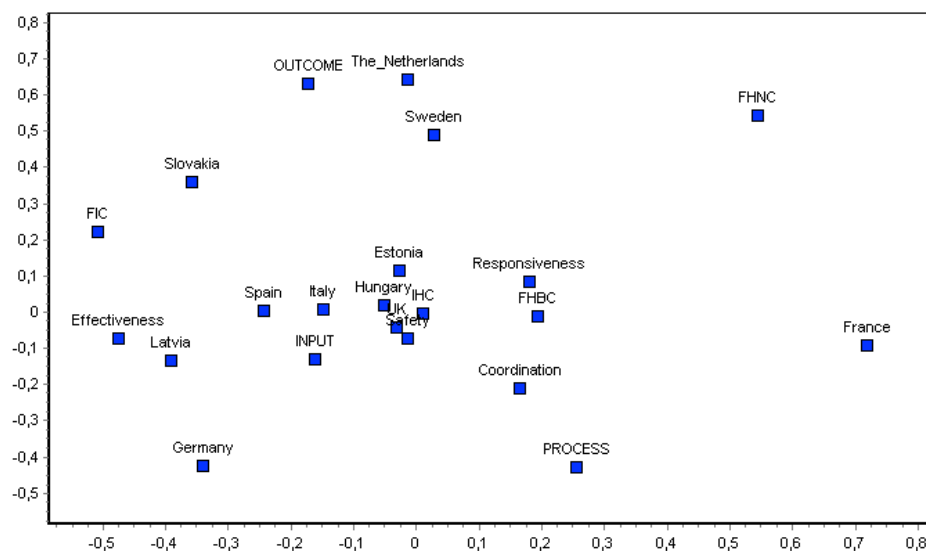

Figure 2. Correspondence analysis. Factors 2 (x) and 3 (y)

Finally, countries best described by factor 3 are Sweden, The Netherlands, Slovakia, and Estonia where LTC systems are well organized (table 2) and in half of them financially generous (except Slovakia and Estonia). They invest more than others on quality indicators about home nursing care (FHNC) and outcomes.

All the other countries, Hungary and Italy, are characterized by a low level of organizational depth and are included in Factor 1 but at a lesser extent.

Eventually, table 4 shows the contingency matrix matching all the variables. On the diagonal we find the sums of each variable, in each cell the co-occurrence of a variable with all the others.

Table 4. Contingency matrix

	FIC	FHBC	FHNC	IHC	Effec.	Safety	Resp.	Coor.	Input	Process	Outcome
FIC	**281**	101	64	6	141	70	56	60	59	161	58
FHBC	101	**198**	118	5	82	38	60	46	30	137	31
FHNC	64	118	**142**	5	54	20	44	32	21	94	27
IHC	6	5	5	**7**	2	0	0	5	0	6	1
Effectiveness	141	82	54	2	**182**	19	14	9	65	84	33
Safety	70	38	20	0	19	**78**	1	14	8	57	12
Responsiveness	56	60	44	0	14	1	**99**	2	4	68	27
Coordination	60	46	32	5	9	14	2	**88**	1	85	0
INPUT	59	30	21	0	65	8	4	1	**76**	1	0
PROCESS	161	137	94	6	84	57	68	85	1	**247**	0
OUTCOME	58	31	27	1	33	12	27	0	0	0	**68**

5. Conclusions

This study is an attempt to provide an overview of indicators about the quality of LTC providers in eleven European countries.

This overview produced some interesting results.

- We identified three groups of countries, based on a correspondence analysis. The first group (Germany and the UK) focuses on FIC/FHBC and process/coordination indicators, coherently with its high organizational depth. France constitutes a group per se, where quality indicators are about formal home care (FHNC, FHBC). Italy, Spain., Latvia, Estonia, Hungary are more close to the center of the figures, meaning that they invest mildly on quality indicators. This is not quite coherent with its LTC demand (high informal care) and spending (medium-low public spending, medium cash benefits). A higher support to informal care and more home care services would be needed. Finally, the third group (Sweden, The Netherlands, Slovakia) is characterized by quality monitoring of outcomes and of nursing home care, quite lacking in other countries. Also, these countries, coherently with their organizational depth and public spending generosity, are associated to indicators about outcomes and responsiveness.

- As in table 4, about 40% of FIC indicators are also used in FHBC. Furthermore, between FIC and FHBC there is a greater sharing of indicators than between FIC and FHNC. This suggests that LTC in institutions is more about social care than nursing or health care.
- 50% of FIC indicators are about effectiveness, while FHBC and FHNC organization types balance more their indicators among effectiveness and responsiveness. This confirms that institutional care is less personalized than

formal home care and that it pays insufficient attention to a fundamental part of the quality of care.

- IHC indicators are very rare, they are included at the center of the figures, meaning that their value is almost zero. Support to monitoring the quality of IHC should be needed.

- Effectiveness indicators are distributed in a balanced way between input, process, and outcome indicators. Safety and coordination, instead, are mostly associated to process indicators. In fact, safety – and the prevention of errors in general – implies a process view of work. Only if work processes are controlled mistakes can be traced down and solved as they occur for the first time. Similarly, coordination is inherently a work process, that is a set of interdependent activities involving two or more operators.

- Responsiveness is a matter of processes and outcomes. That is, it is measured by indicators on organizational processes (timely responses, for instance) and by those assessing the point of view/satisfaction of the patients (outcome indicators).

- Input, Process, and Outcome indicators are present with the same percentages across all the formal organization types (FIC, FHBC, FHNC). Process indicators are about 60-65% of all indicators, input and outcome are about 15-20% each across organizations. Is this a golden rule? Or just a reflection of the difficulty in developing reliable outcome indicators? Or the confirmation that input indicators are too far away from outcomes to be a real measure of quality of care? Future in depth research is needed on this issue.

This study has several limitations: the classification of the indicators was a collective effort but the process did not follow a formal methodology (like Delphi). Also, the classification was validated by health economists (ANCIEN partners) but not by policy makers or physicians. Eventually, the paper addresses only the types of indicators and not the actual measures of them, as there were too many missing data to start a classification effort like this one.

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